REMARKS/ARGUMENTS

Claims 1, 2 and 4-19 are pending in the application.

Claims 1, 4 and 5 have been amended.

Claims 1 and 3 have been combined and claim 3 has been cancelled.

The rejection of claims 1 - 7 under 35 U.S.C. 101 as being directed to non-statutory subject matter is respectfully traversed. The Examiner is wrong here; it is erroneous to equate a policy server with "functional descriptive material". A server cannot be implemented in software (SW) alone: in telecommunications, a server is a network element that stores applications and data to be used by a large number of network elements that have access to it. To this end, a server must include a memory, write/read circuits, receivers and transmitters for receiving a request and transmitting the data/application to the clients, circuits for identifying the requestor and the client/s, circuits for verifying the legitimacy of the requestor, client and request, circuits for selecting the requested application/data, etc.

In addition, "functional descriptive material" rejection cannot be applied when modules (even pure SW modules) interact with each-other, since any interaction implies transmitters, receivers, multiplexers, memory access hardware, etc.

Even if in some particular cases (of which applicant is not aware) a server may be interpreted as a program only, applicant's specification clearly describes the server as a network element and not a program. Thus, all elements of claim 1 (pre-computational module, scheduler, triggering module and policy decision distribution mechanism) are physical elements. A scheduler, such as scheduler 222, is defined as "computer hardware that arranges jobs to be done by the computer in an appropriate order." The pre-computation module 224 is described e.g. in [0038] as a module that

stores/retrieves/modifies policy equivalency classes in a database 225; this implies manipulation of data, and clearly no operation can be performed without the underlying hardware (AND/OR/XOR gates, etc). The trigger detection module 226 monitors triggering conditions associated with each policy equivalency class; monitoring involves retrieval of data units that are monitored (e.g. packets), analysis of particular fields of the respective data unit, mapping the information obtained in this way with the specified conditions to assess if the condition is satisfied or not.

Furthermore, patent claims to a policy server have been allowed to others, see, for example, U.S. Patent Nos. 7,181,532; 6,714,515; and 5,759,222.

The rejection of claims 1-19 under 35 U.S.C. 112, second paragraph, as being indefinite in respectfully traversed. Applicant respectfully submits that the claims are definite in the following manner:

The "policy server" of the invention comprises:

i) a management mechanism (210) for determining the triggering and non-triggering conditions in the policy database (250),

ii) a policy memory (250) for holding 254, 252, 258, 256; and

iii) a policy decision point (PDP) (220) that includes (this the subject matter of current claim 1):

- a pre-computation module (224) that uses the policy database (250) and most likely stored procedures to compute the PEC. This module may also directly modify a PEC without intervention of the database. The pre-computation module uses an efficient method to store the PEC so the PDP can have immediate and fast access (e.g., shared

memory). This mechanism continuously monitors changes in all non-triggering conditions and it starts evaluation as the database triggers indicate a change in the data that affects non-triggering conditions.

- a scheduler (222) to determine the order in which non-triggering conditions are to be evaluated. The scheduler prioritizes the evaluation of policy equivalency classes based on demand for the class and available resources. Figure 2 illustrates the scheduler in the policy decision point PPD (220). If multiple PDPs are used, the scheduler is shared by all PDPs and may be more appropriately collocated with the policy database (250).

- a triggering recognition mechanism (226) that monitors the occurrence of events and communicates policy decisions to members of a PEC when an event matches the trigger condition of that class. In figure 2, triggering conditions are shown as occurring both through the database and from the network. Independently, the triggering mechanism monitors all triggering conditions.

- a distribution mechanism for ensuring that a decision is communicated to all members of the policy equivalency class, when a triggering condition is identified.

In the above, applicant has keyed the terms of claim 1 into the specification by numerals from the drawings. Clearly, this demonstrates that the claims track the specification and are definite within the meaning of 35 U.S.C. 112.

The rejection of claims 1-19 under 35 U.S.C. 102(b) as being anticipated by Poliquin et al (US 5,696,486) (hereinafter Poliquin) is respectfully traversed for the following reasons:

The invention relates to the problem of dynamically and efficiently computing policy decisions in a communications network. Thus, conditions of each policy rule class are classified into triggering (one) and one or more non-triggering conditions. Rules with the same triggering condition and that have the same result are aggregated into a policy equivalency class (PEC) which defines a target set of policy-enabled devices and a corresponding decision waiting to be applied upon the occurrence of an event that satisfies a triggering condition. A triggering process at a policy decision point (PDP) monitors the occurrence of events and communicates policy decisions to members of a PEC when an event matches the trigger condition of that class. Dealing with triggering conditions as aggregated classes improves the efficiency of the method.

A scheduler prioritizes the evaluation of non-triggering conditions so as to minimize the impact on the evaluation of triggering conditions, which further improves the efficiency of the method. In addition, the non-triggering conditions are pre-evaluated with a view to migrate an object from one PEC to another.

Traffic policies establish for example the rules applicable to how to distribute a multimedia flow only to subscribers that have enough prepaid credits, or whose terminals are capable or receiving the respective flow, according to flow content, encoding type, etc. An example is shown in Figure 4, where given the conditions in the policy group, four PECs are defined. The on-going pre-evaluation occurs upon detection of IP address presence in the network or changes to the prepaid status, as a result IP addresses change membership through the four possible PECs. Upon arrival of

the triggering event (i.e., the flow to be distributed) the pre-computed membership lists are used to initiate the real-time distribution of the flow, or recharge notifications to users that are present in the network. For PEC3 and PEC4 real-time evaluation is not required since the IP addresses are not available and the evaluation is therefore treated accordingly.

Poliquin describes a method for receiving alarms from multiple network management servers and applying a plurality of policy-based filters to the alarms, with the view to get greater control over which alarms are reported to network management and to ensure consistency of reported alarms. Policies on how to filter alarms as in the reference are totally irrelevant to traffic policing of applicant's invention (as for the above example).

A 102 rejection requires that all elements of a claim be described in the single reference. This is not the case here.

Thus, the Poliquin text in column 10, lines 21-34 describes a policy window ("which is visual material!") that enables an operator to add, delete and view policies. The policy window is not a pre-computational module that groups policies into policy equivalency classes.

The Poliquin text in columns 10-11, lines 60-20 describes a scheduler window and how an operator can use the window for associating policies with applications and setting scheduling options. It does not disclose, describe or infer a scheduler that performs policy evaluation for determining policy-managed entity memberships with respect to the policy equivalency class as in claim 1 of the present application. Furthermore, the scheduler window of the Poliquin reference does not prioritize the evaluation of policy equivalency classes based on demand for the class and available resources, as described in the present application.

The Poliquin text in columns 7-8, lines 19-29 describes an alarm notification manager, which operates in an entirely different way from the triggering module of claim 1. The alarm notification manager of the reference is just an alarm notification module, which applies filtering criteria to policies. The triggering module of the claims initiates a policy evaluation when a triggering condition is satisfied.

The Poliquin text in col. 9 lines 45-59 describes how the operator associates a policy with an application, and how the operator can modify an existing policy-application association. It is known to associate policies with applications (this is the definition of a policy), but this is not what this claim recitation says. The last recitation in claim 1 specifies that by associating policy-managed entities with policy equivalency classes, policy evaluation is restricted to equivalency classes, thus reducing policy evaluation overhead. There is no such association described in the Poliquin reference.

In view of the above, further and favorable reconsideration is respectfully requested.

Respectfully submitted,

Jim Zegeer

Jim Zegeer, Reg. No. 18,957
Attorney for Applicant

Suite 108
801 North Pitt Street
Alexandria, VA 22314
Telephone: 703-684-8333

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In the event this paper is deemed not timely filed, the applicant hereby petitions for an appropriate extension of time. The fee for this extension may be charged to Deposit Account No. 26-0090 along with any other additional fees which may be required with respect to this paper.

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